

V

C

L

H

domains

inter-domain sections

interchain disulphide bonds

variable

constant

light chain

heavy chain

FIG. 1

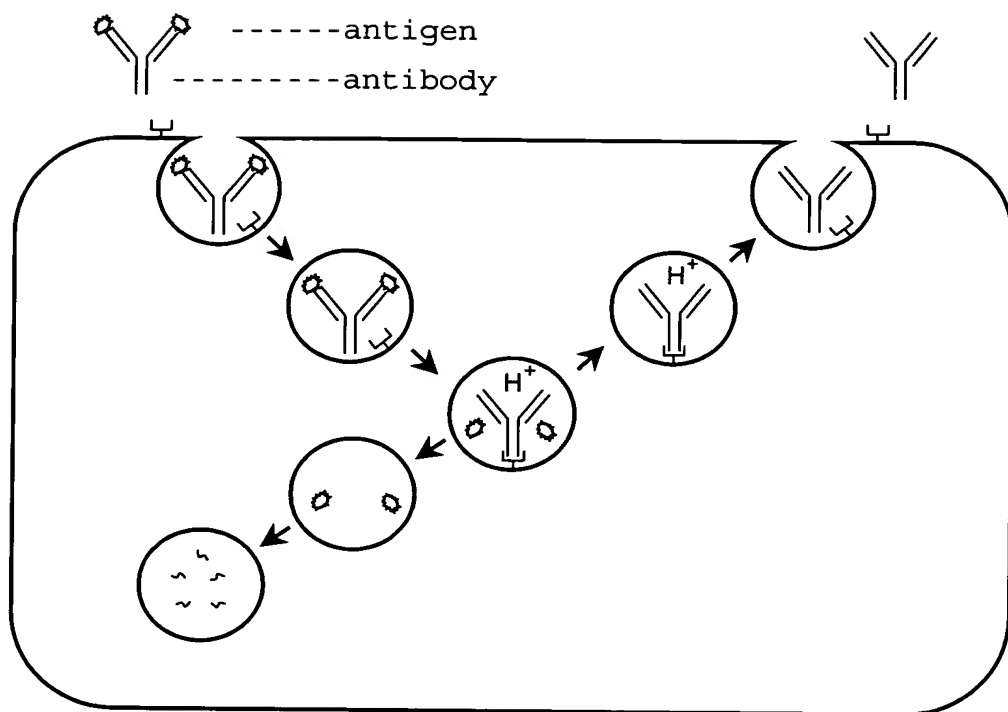


FIG. 2

FIG. 3A Amino Acid Sequences of OST577-IgG2M3 and OST577-IgG1

| | |
|--------------|---|
| OST577 - VH | QVQLVESGGGVVQPGRSLRLSCAASGFTFSRYGMHWVRQAPGKGLEWVAVISYDGSNKWYADSVKGRFTISRDNISKNTLFLQMHSLSRAADTGVYFCAKDQLYFGSQSPGHYWGQGTLVTVSS |
| IgG2M3 - CH | ASTKGPSVFPLA ¹ PCSRSTSESTAALGCLVKDYFPEPVTYSWNSGALTSGVHTTTPAVLQSSGLYSLSVVVTPSSNFGTQTYTCNVVDHKPSNTKVDKTVVERKCCVECP ² PCP APPAAAPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTI ³ SKTK GQPREPQVYTLPPSRREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKITTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFC ⁴ SCVMHEALHNHYTQKSLSLSPSK |
| IgG1 - CH | ASTKGPSVFPLA ¹ PSSKSTSGGTAAALGCLVKDYFPEPVTYSWNSGALTSGVHTTTPAVLQSSGLYSLSVVVTPSSSLGTQTYICNVNHNKPSNTKVDKVEPKSCDKTHT ² CPPCP APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTI ³ SKAK GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKITTPPVLDSGDSFFLYSKLTVDKSRWQQGNVFC ⁴ SCVMHEALHNHYTQKSLSLSPGK |
| OST577 - VL | SYVL ¹ TQPPSVSVAPGQTARITCGGDNI ² GSKSVNWFQQKPGQAPVLVYDDNERPSG ³ ISERFSGNSGNTATLTISRVEAGDEADYYCQVWDSSD ⁴ HVVFGGGTKLTVLG |
| LAMBDA2 - CL | QPKAAPSVTLFPPSSEELQANKATLVCLISDFYPGAVTVAMKADSSPVKAGVETTTTPSKQSNNKYAASSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAPTECS |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|--------|---|
| IgG2M3 | ASTKGPSPVFFLAPCSRSTSESTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPPAVLQSSGLYSLSVVTVPSSNFGQTQYTCNVDRHKPSNTKVDKTV |
| T250A | ----- |
| T250C | ----- |
| T250D | ----- |
| T250E | ----- |
| T250F | ----- |
| T250G | ----- |
| T250H | ----- |
| T250I | ----- |
| T250K | ----- |
| T250L | ----- |
| T250M | ----- |
| T250N | ----- |
| T250P | ----- |
| T250Q | ----- |
| T250R | ----- |
| T250S | ----- |
| T250V | ----- |
| T250W | ----- |
| T250Y | ----- |
| L314A | ----- |
| L314C | ----- |
| L314D | ----- |
| L314E | ----- |
| L314F | ----- |
| L314G | ----- |
| L314H | ----- |
| L314I | ----- |
| L314K | ----- |
| L314M | ----- |
| L314N | ----- |
| L314P | ----- |
| L314Q | ----- |
| L314R | ----- |
| L314S | ----- |
| L314T | ----- |
| L314V | ----- |
| L314W | ----- |
| L314Y | ----- |
| M428A | ----- |
| M428C | ----- |
| M428D | ----- |
| M428E | ----- |
| M428F | ----- |
| M428G | ----- |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|-------------|-------------|
| M428H | ----- |
| M428I | ----- |
| M428K | ----- |
| M428L | ----- |
| M428N | ----- |
| M428P | ----- |
| M428Q | ----- |
| M428R | ----- |
| M428S | ----- |
| M428T | ----- |
| M428V | ----- |
| M428W | ----- |
| M428Y | ----- |
| T250E/M428F | ----- |
| T250Q/M428F | ----- |
| T250Q/M428L | ----- |
| IgG2M3 | ERKCCVCEPCP |
| T250A | ----- |
| T250C | ----- |
| T250D | ----- |
| T250E | ----- |
| T250F | ----- |
| T250G | ----- |
| T250H | ----- |
| T250I | ----- |
| T250K | ----- |
| T250L | ----- |
| T250M | ----- |
| T250N | ----- |
| T250P | ----- |
| T250Q | ----- |
| T250R | ----- |
| T250S | ----- |
| T250V | ----- |
| T250W | ----- |
| T250Y | ----- |
| L314A | ----- |
| L314C | ----- |
| L314D | ----- |
| L314E | ----- |
| L314F | ----- |
| L314G | ----- |
| L314H | ----- |
| L314I | ----- |
| L314K | ----- |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|-------------|--|
| L314M | ----- |
| L314N | ----- |
| L314P | ----- |
| L314Q | ----- |
| L314R | ----- |
| L314S | ----- |
| L314T | ----- |
| L314V | ----- |
| L314W | ----- |
| L314Y | ----- |
| M428A | ----- |
| M428C | ----- |
| M428D | ----- |
| M428E | ----- |
| M428F | ----- |
| M428G | ----- |
| M428H | ----- |
| M428I | ----- |
| M428K | ----- |
| M428L | ----- |
| M428N | ----- |
| M428P | ----- |
| M428Q | ----- |
| M428R | ----- |
| M428S | ----- |
| M428T | ----- |
| M428V | ----- |
| M428W | ----- |
| M428Y | ----- |
| T250E/M428F | ----- |
| T250Q/M428F | ----- |
| T250Q/M428L | ----- |
| IgG2M3 | APPAAAPSVLFPFPKPKDTLMI SRTPEVTCVVVDVSHEDPEVFQFNWYVDGVEVHNAAKTKPREPQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTK |
| T250A | -----A----- |
| T250C | -----C----- |
| T250D | -----D----- |
| T250E | -----E----- |
| T250F | -----F----- |
| T250G | -----G----- |
| T250H | -----H----- |
| T250I | -----I----- |
| T250K | -----K----- |
| T250L | -----L----- |
| T250M | -----M----- |
| T250N | -----N----- |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|-------|---|
| T250P | P |
| T250Q | Q |
| T250R | R |
| T250S | S |
| T250V | V |
| T250W | W |
| T250Y | Y |
| L314A | A |
| L314C | C |
| L314D | D |
| L314E | E |
| L314F | F |
| L314G | G |
| L314H | H |
| L314I | I |
| L314K | K |
| L314M | M |
| L314N | N |
| L314P | P |
| L314Q | Q |
| L314R | R |
| L314S | S |
| L314T | T |
| L314V | V |
| L314W | W |
| L314Y | Y |
| M428A | |
| M428C | |
| M428D | |
| M428E | |
| M428F | |
| M428G | |
| M428H | |
| M428I | |
| M428K | |
| M428L | |
| M428N | |
| M428P | |
| M428Q | |
| M428R | |
| M428S | |
| M428T | |
| M428V | |
| M428W | |
| M428Y | |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|-------------|---|
| T250E/M428F | -----E----- |
| T250Q/M428F | -----Q----- |
| T250Q/M428L | -----Q----- |
| IgG2M3 | GQPREQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPMLDSGSFFLYSKLTVDKSRWQQGNVFCSVWHEALHNHYTQKSLSLSPSK |
| T250A | ----- |
| T250C | ----- |
| T250D | ----- |
| T250E | ----- |
| T250F | ----- |
| T250G | ----- |
| T250H | ----- |
| T250I | ----- |
| T250K | ----- |
| T250L | ----- |
| T250M | ----- |
| T250N | ----- |
| T250P | ----- |
| T250Q | ----- |
| T250R | ----- |
| T250S | ----- |
| T250V | ----- |
| T250W | ----- |
| T250Y | ----- |
| L314A | ----- |
| L314C | ----- |
| L314D | ----- |
| L314E | ----- |
| L314F | ----- |
| L314G | ----- |
| L314H | ----- |
| L314I | ----- |
| L314K | ----- |
| L314M | ----- |
| L314N | ----- |
| L314P | ----- |
| L314Q | ----- |
| L314R | ----- |
| L314S | ----- |
| L314T | ----- |
| L314V | ----- |
| L314W | ----- |
| L314Y | ----- |
| M428A | -----A----- |
| M428C | -----C----- |
| M428D | -----D----- |

FIG. 3B Amino Acid Sequences of OST577-IgG2M3 and Its Mutants

| | |
|-------------|-------------|
| M428E | -----E----- |
| M428F | -----F----- |
| M428G | -----G----- |
| M428H | -----H----- |
| M428I | -----I----- |
| M428K | -----K----- |
| M428L | -----L----- |
| M428N | -----N----- |
| M428P | -----P----- |
| M428Q | -----Q----- |
| M428R | -----R----- |
| M428S | -----S----- |
| M428T | -----T----- |
| M428V | -----V----- |
| M428W | -----W----- |
| M428Y | -----Y----- |
| T250E/M428F | -----F----- |
| T250Q/M428F | -----F----- |
| T250Q/M428L | -----L----- |

FIG. 3C Amino Acid Sequences of OST577-IgG1 and Its Mutants

| | |
|-------------|--|
| IgG1 | ASTKGPVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVWTVPSSSLGTQTYICNNHKPSNTKVDKKV |
| T250D | ----- |
| T250E | ----- |
| T250Q | ----- |
| M428F | ----- |
| M428L | ----- |
| T250E/M428F | ----- |
| T250Q/M428L | ----- |
| IgG1 | EPKSCDKTHTCPPCP |
| T250D | ----- |
| T250E | ----- |
| T250Q | ----- |
| M428F | ----- |
| M428L | ----- |
| T250E/M428F | ----- |
| T250Q/M428L | ----- |
| IgG1 | APELLGGPSVFLPPPKDITLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVSVLTVQLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAK |
| T250D | -----D----- |
| T250E | -----E----- |
| T250Q | -----Q----- |
| M428F | ----- |
| M428L | ----- |
| T250E/M428F | -----E----- |
| T250Q/M428L | -----Q----- |
| IgG1 | GQPREPQVYTLPPSRDELTKNOVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSLKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK |
| T250D | ----- |
| T250E | ----- |
| T250Q | ----- |
| M428F | -----F----- |
| M428L | -----L----- |
| T250E/M428F | -----F----- |
| T250Q/M428L | -----L----- |

FIG. 3D Amino Acid Sequences of Hu1D10-IgG2M3 and Hu1D10-IgG1

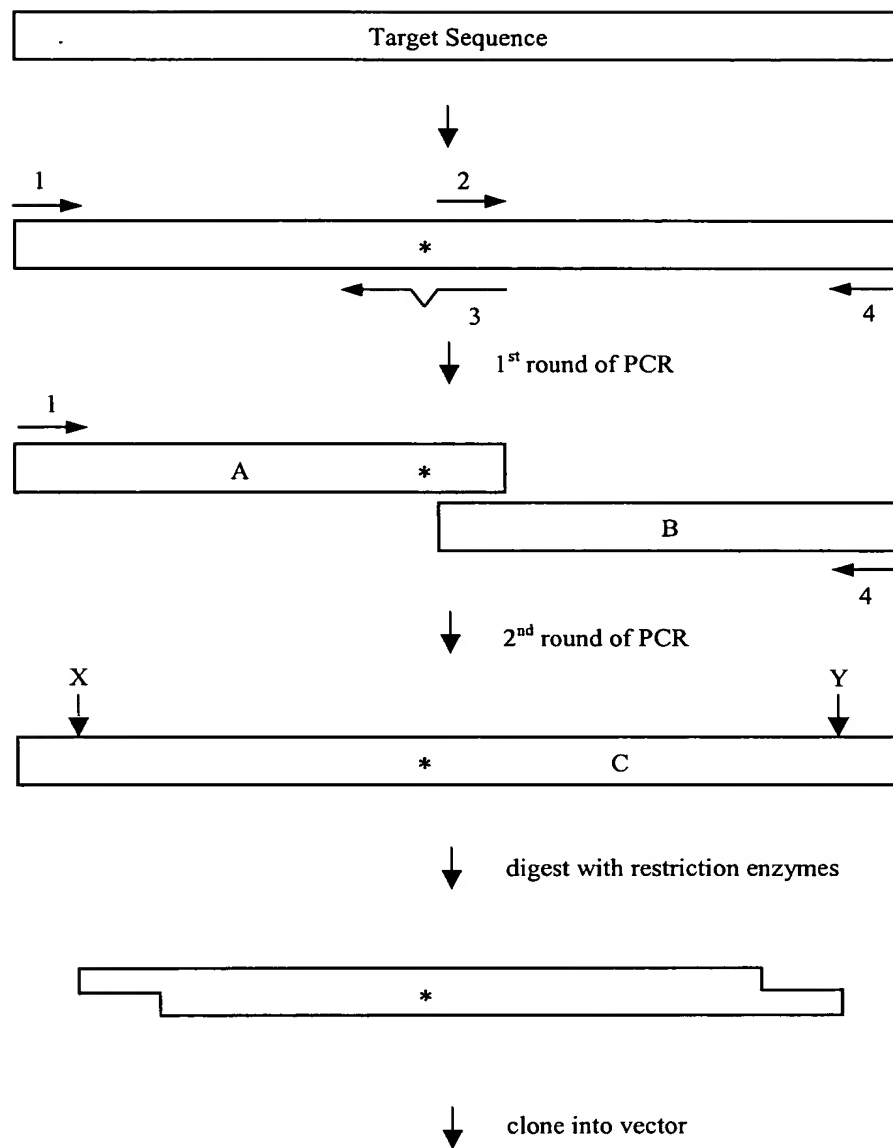
| | |
|-------------|---|
| Hu1D10 - VH | QVQLQESGPGLVKPSSETLSLTCTVSGFSLTNYGVHWVRQSPGKGLWIGVKWGGSTEYNAAFISRLTISKDTSKNQVSLKLSLTAADTAVYYCARNDRYAMDYWGQGTLLVTVSS |
| IgG2M3 - CH | ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSNFGTQTTCNVDHKPSNTKVDKTVVERKCCVECPPCP APPAAPSVFLPPPKPDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTK GQPREPQVYTLPPSRREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPMFLDSGSEFFLYSKLTVDKSRWQOGNVFSCSVMEALHNHYTQKSLSLSPSK |
| IgG1 - CH | ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKHTHTCPPCP APELLGGPSVFLPPPKPDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGSEFFLYSKLTVDKSRWQOGNVFSCSVMEALHNHYTQKSLSLSPGK |
| Hu1D10 - VL | DIQMTQSPSSLSASVGDRVTITCRASENIYSYLAWYQQKPGKAPKLLVSNAKTLAEGVPSRFSGSGSGKQFTLTITSSLPQEDFATYYICQHHYGNISYPFGQGTKLEIK |
| KAPPA - CL | RTVAAPSVFIFPPSDDEQLKSGTASVWCILNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC |

FIG. 3E Amino Acid Sequences of Hu1D10-IgG2M3 and Its Mutants

| | |
|-------------|--|
| IgG2M3 | ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTIKVDKTV |
| M428L | ----- |
| T250Q/M428L | ----- |
| IgG2M3 | ERKCCVECPPCP |
| M428L | ----- |
| T250Q/M428L | ----- |
| IgG2M3 | APPAAAPSVFLFPPPKDTILMI SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVSVLTVVHQDMLNGKEYCKVSNKGLPAPIEKTISKTK |
| M428L | ----- |
| T250Q/M428L | -----Q----- |
| IgG2M3 | GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPMLDSGSGFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPSK |
| M428L | -----L----- |
| T250Q/M428L | -----L----- |

FIG. 3F Amino Acid Sequences of Hu1D10-IgG1 and Its Mutants

| | | |
|-------------|--|-------------|
| IgG1 | ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSNTKVDKKV | |
| M428L | ----- | |
| T250Q/M428L | ----- | |
| IgG1 | EPKSCDKTHTCPPCP | |
| M428L | ----- | |
| T250Q/M428L | ----- | |
| IgG1 | APELLGGPSVFLFPPPKDITLMISRTPETVCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVSVLTVQLHODWLNKGKEYCKKVSNAKALPAPIEKTISKAK | |
| M428L | ----- | |
| | -----Q----- | |
| | ----- | T250Q/M428L |
| | ----- | -- |
| IgG1 | GQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNNHYTKSLSPGK | |
| M428L | ----- | |
| T250Q/M428L | -----L----- | |



* = primer mismatches

FIG. 4

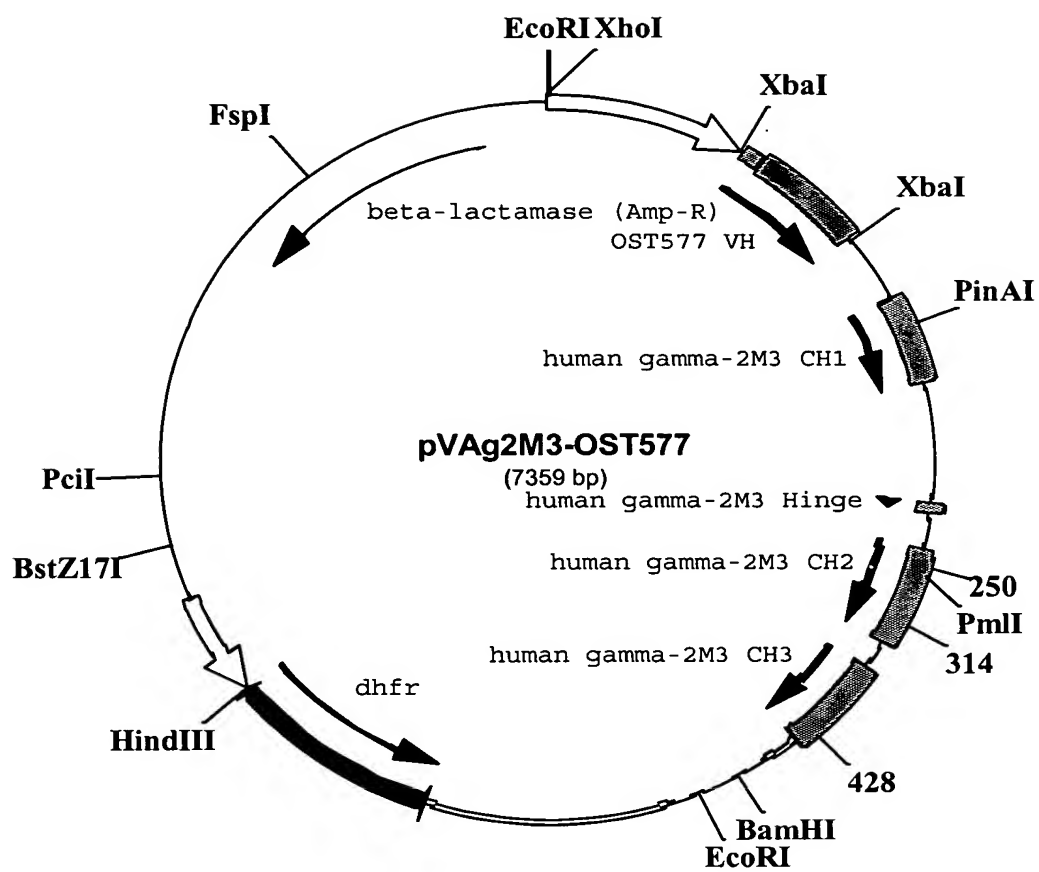


FIG. 5A

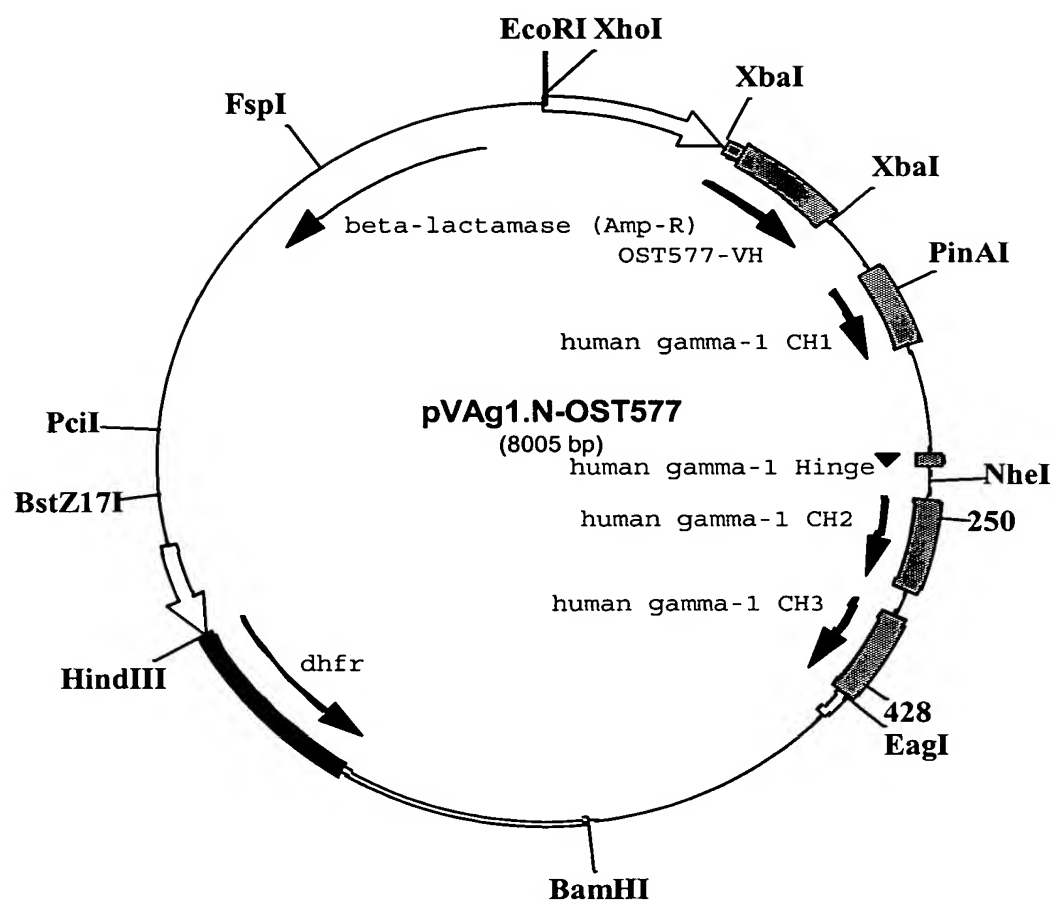


FIG. 5B

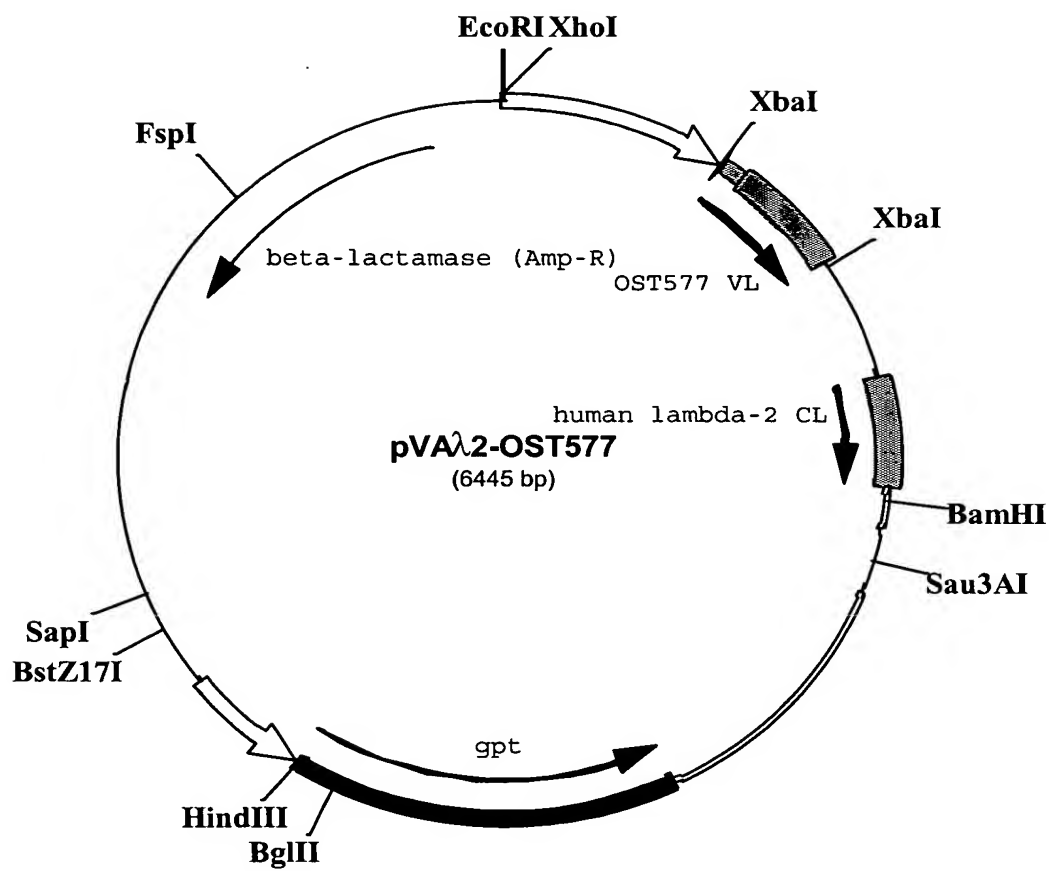


FIG. 6

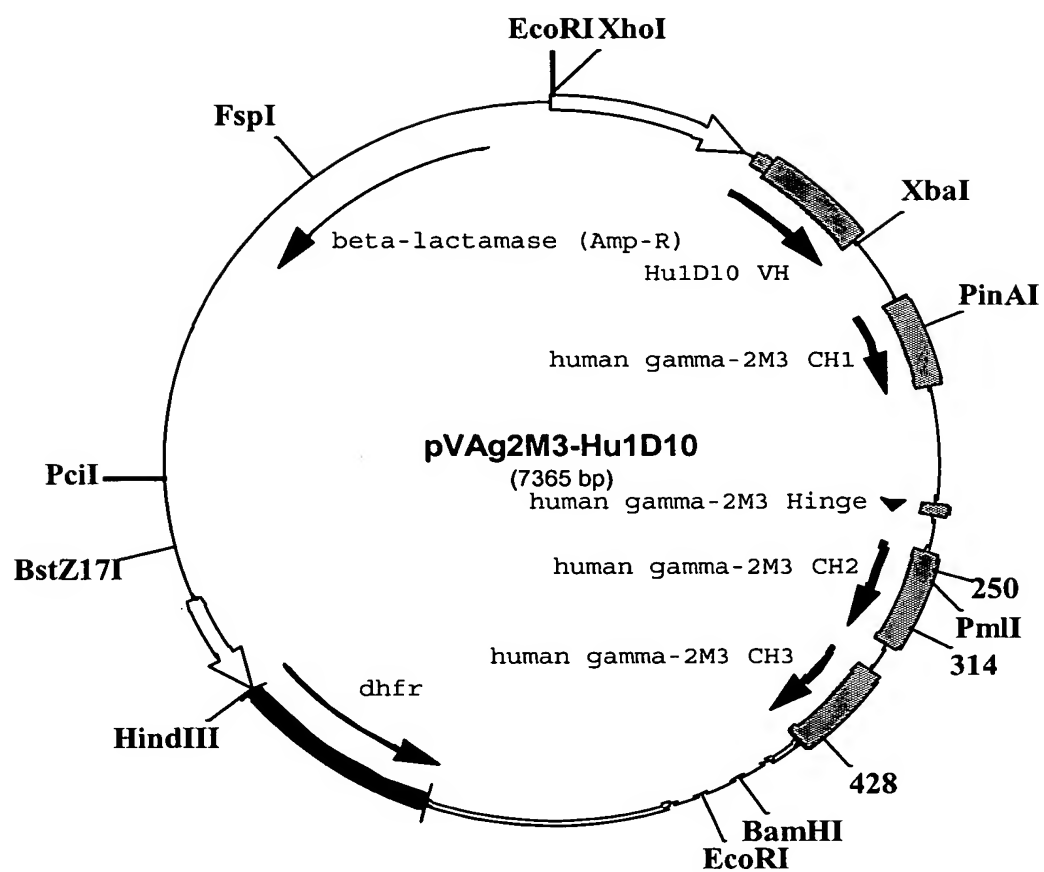


FIG. 7A

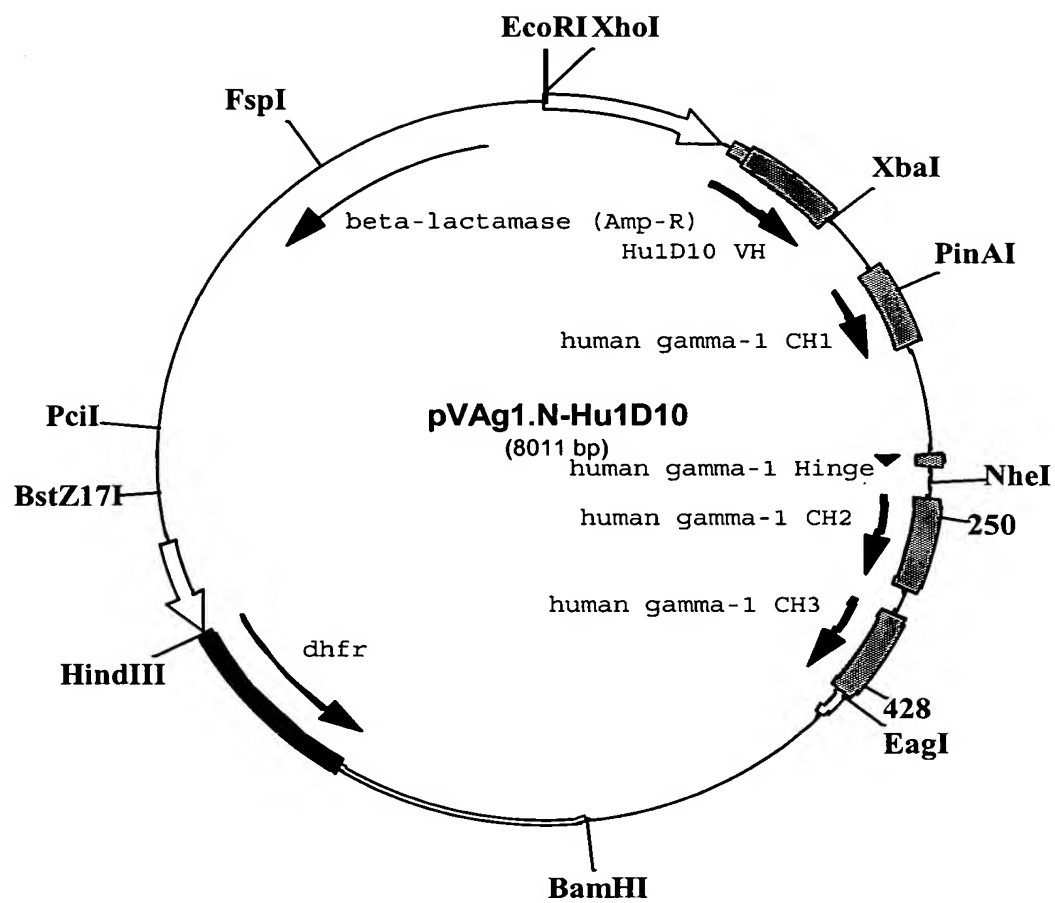


FIG. 7B

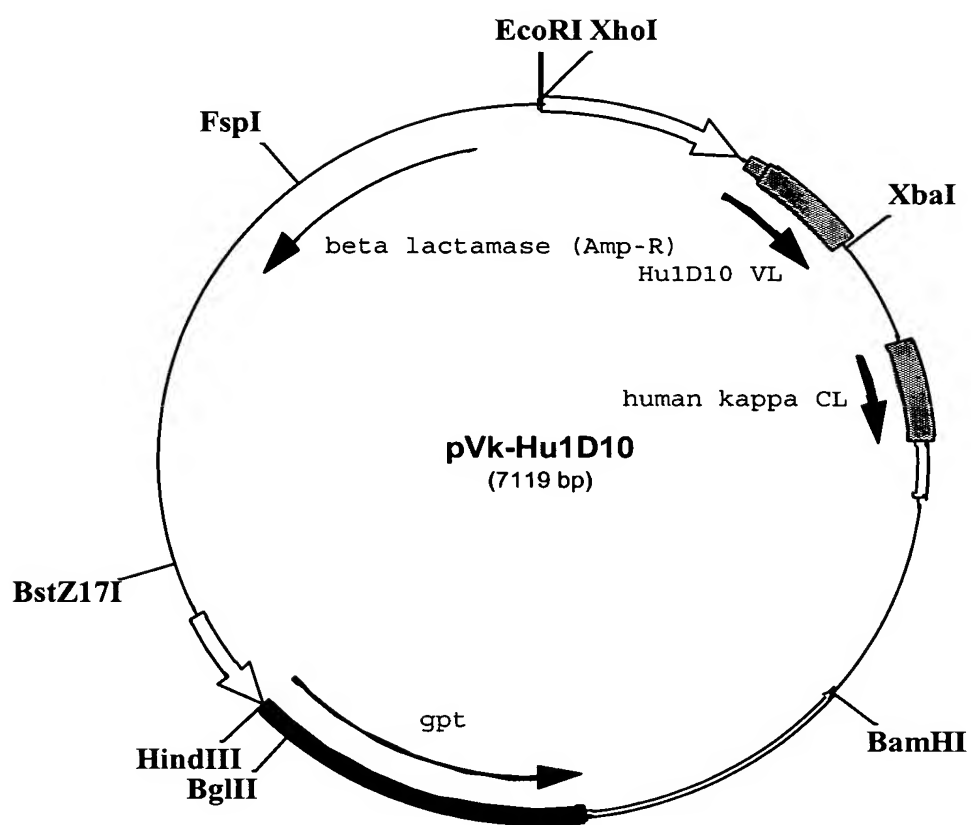


FIG. 8

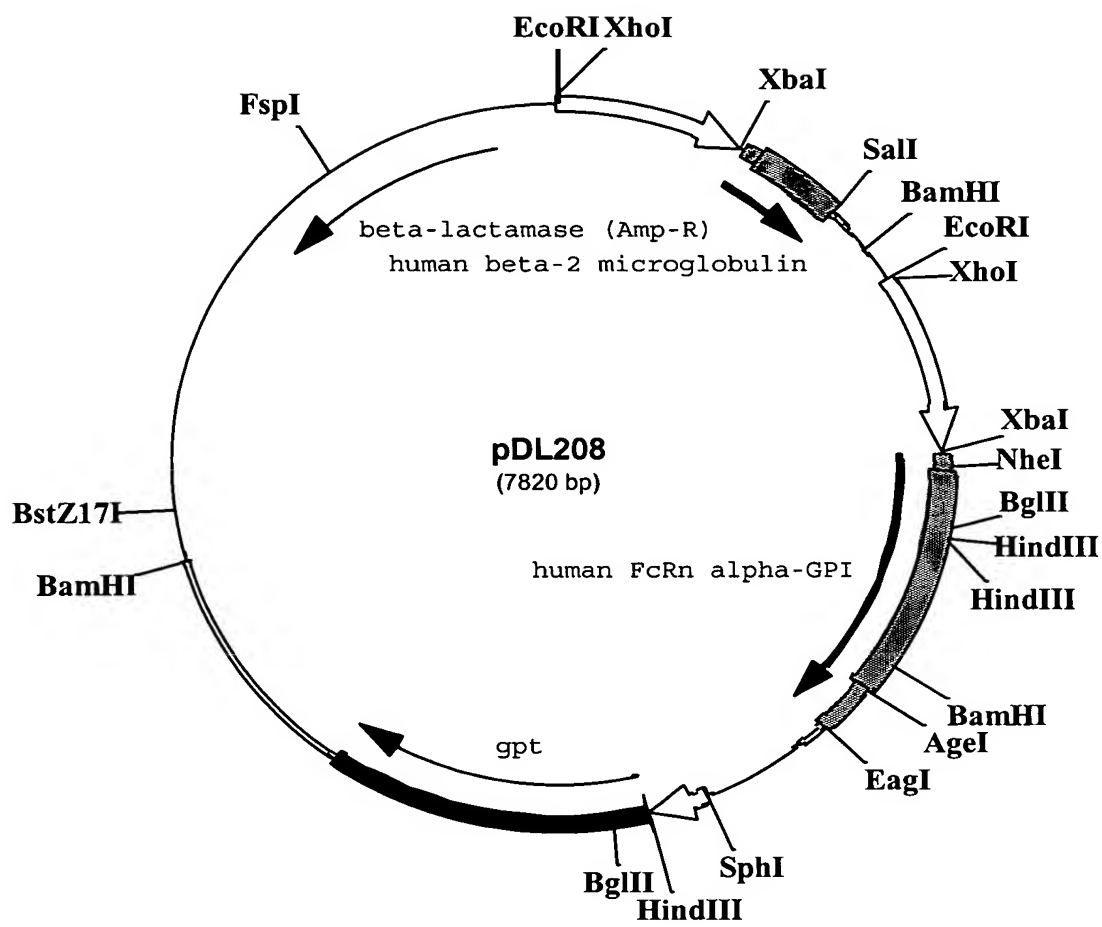


FIG. 9A

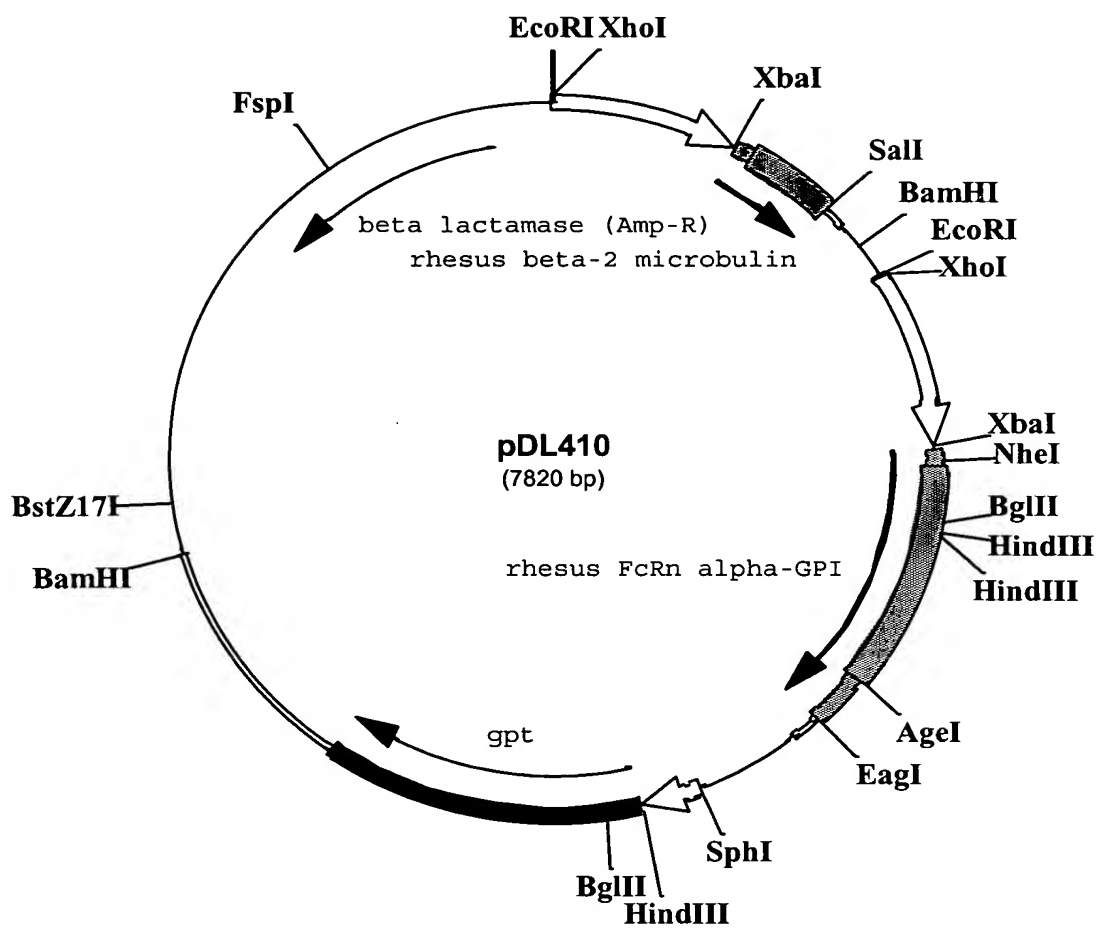


FIG. 9B

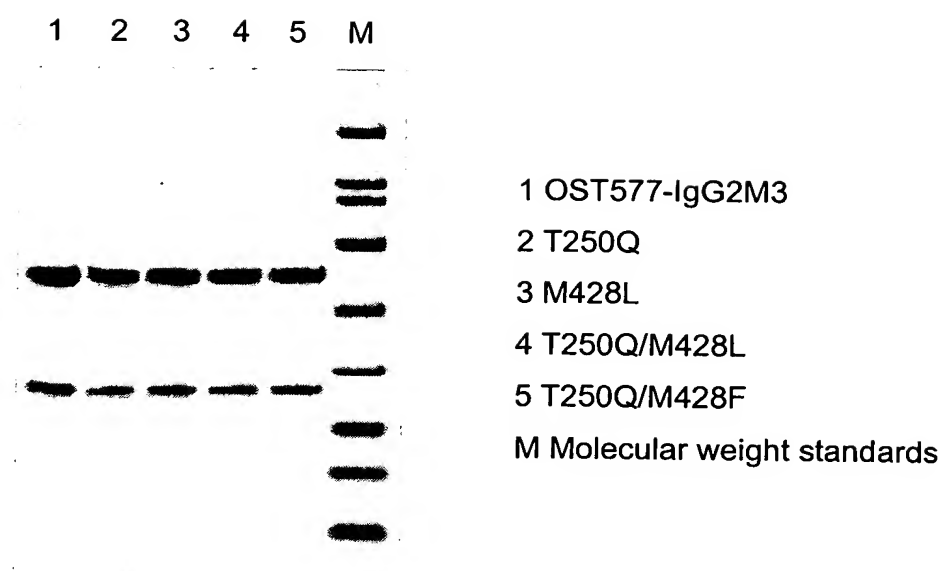
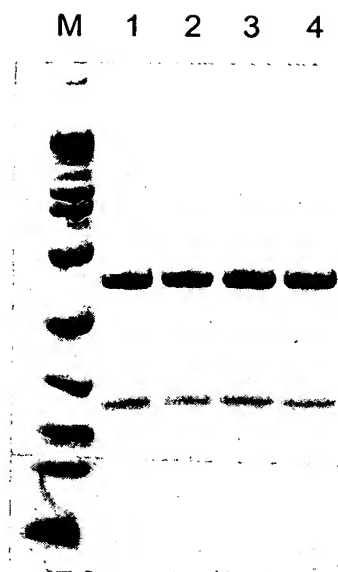


FIG. 10A



M Molecular weight standards

1 OST577-IgG1

2 T250E

3 M428F

4 T250E/M428F

FIG. 10B

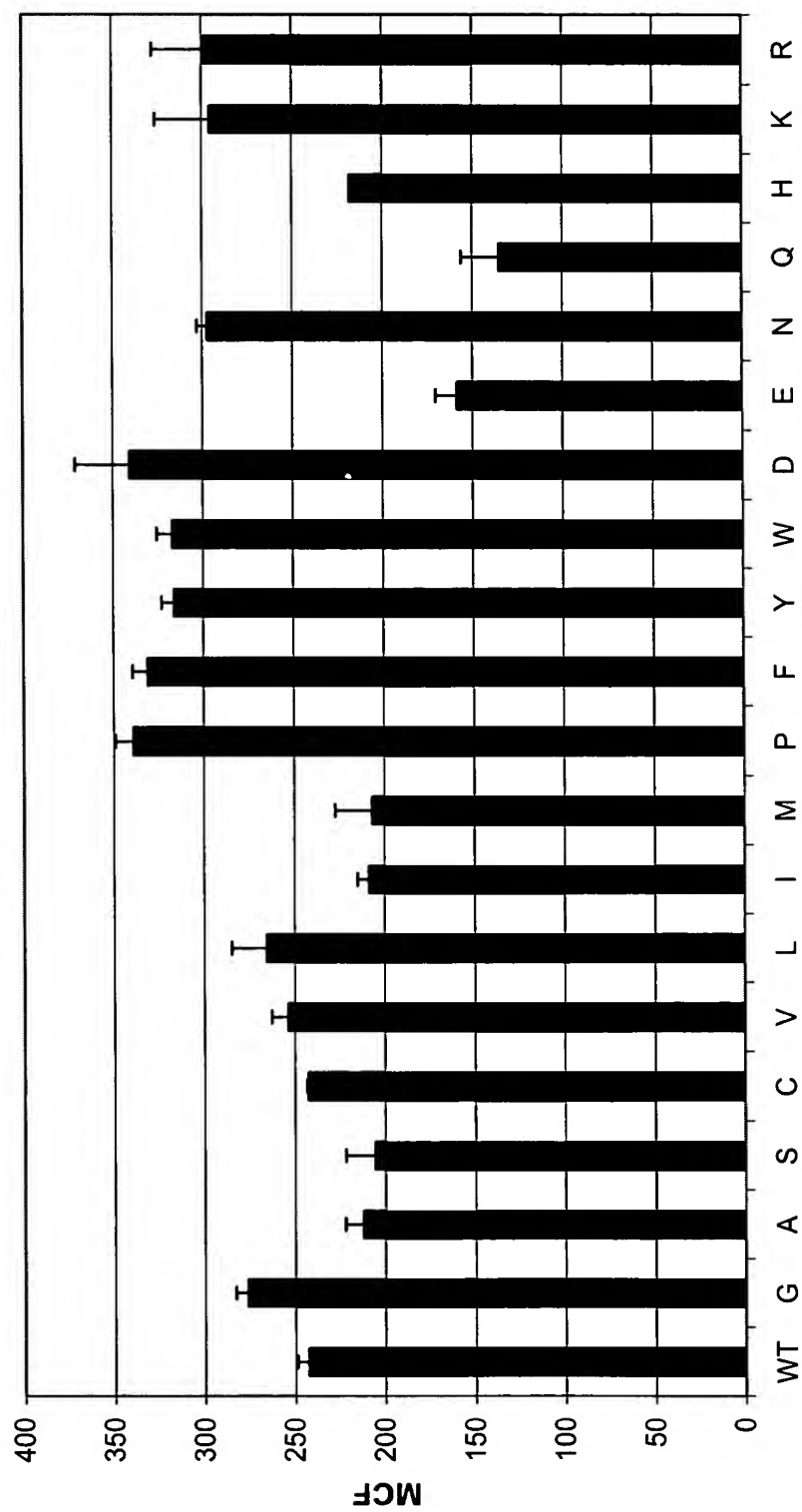


FIG. 11A

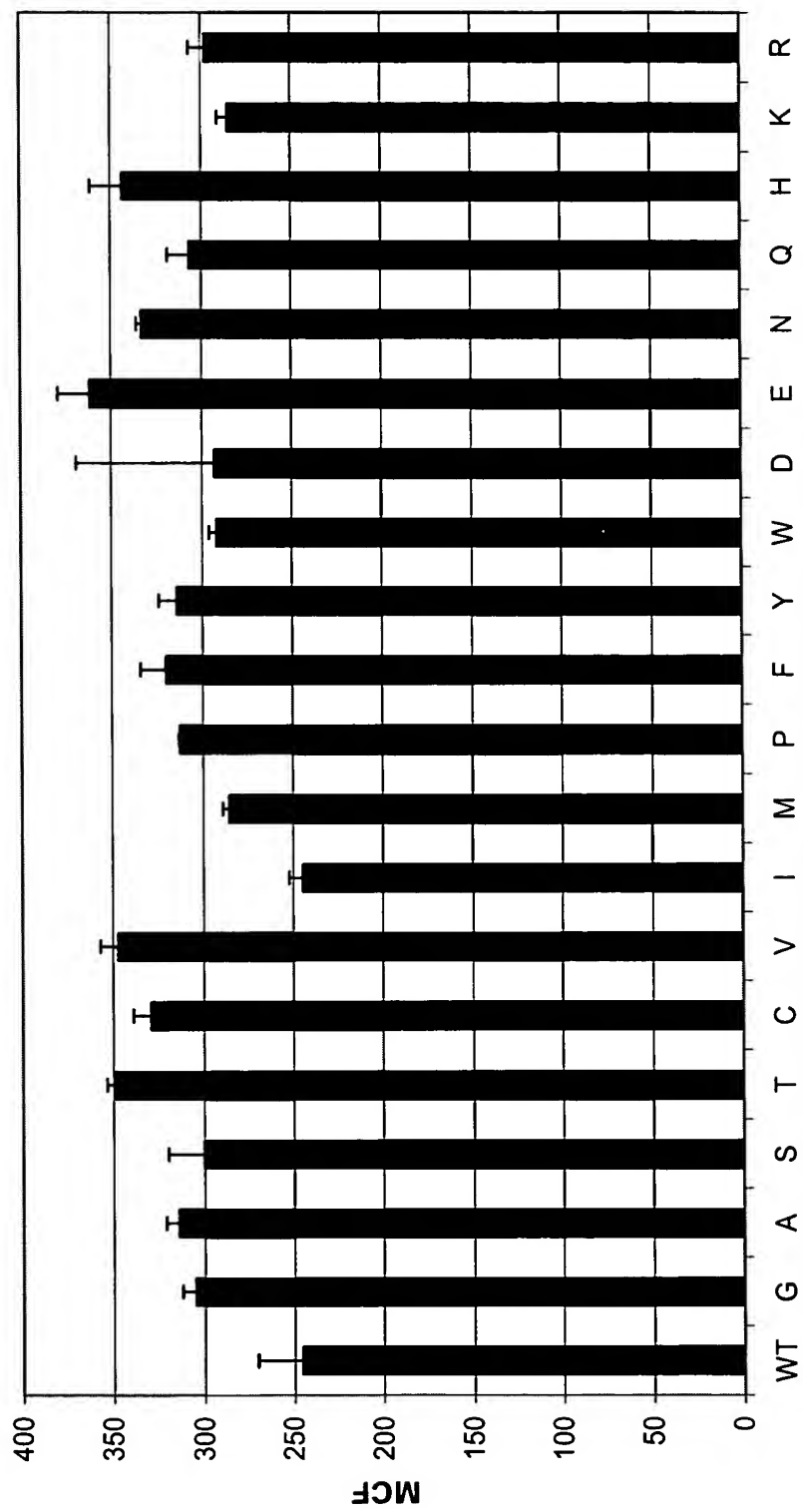


FIG. 11B

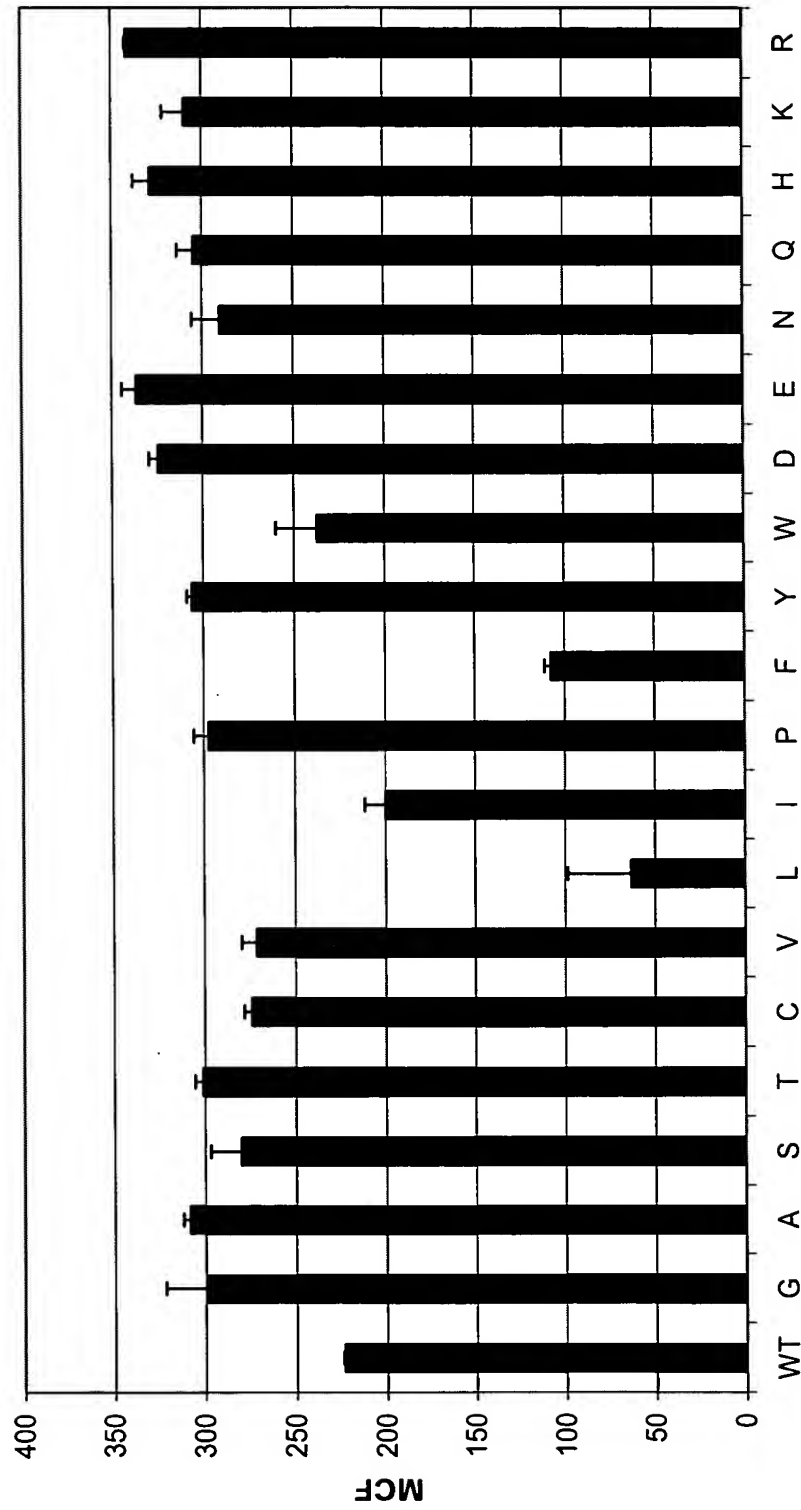


FIG. 11C

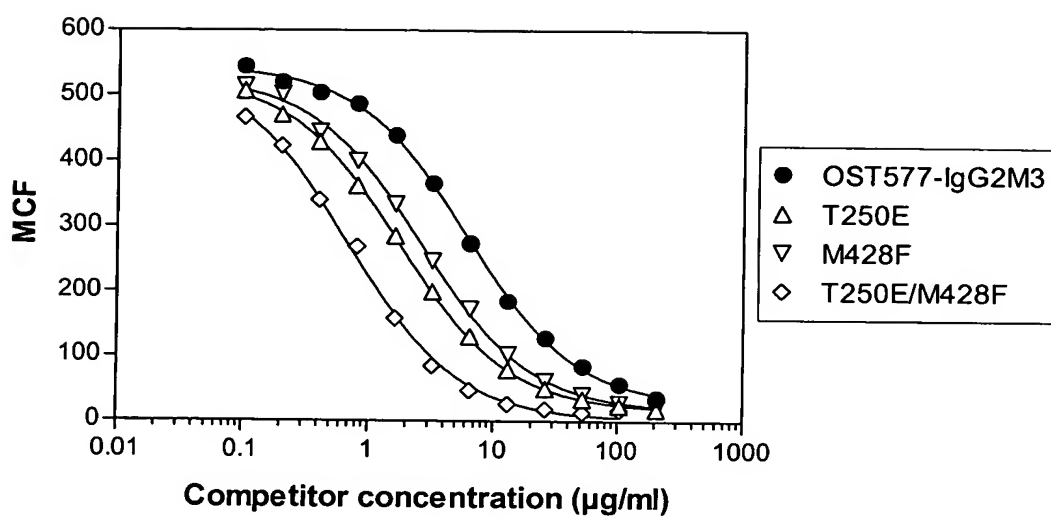


FIG. 12A

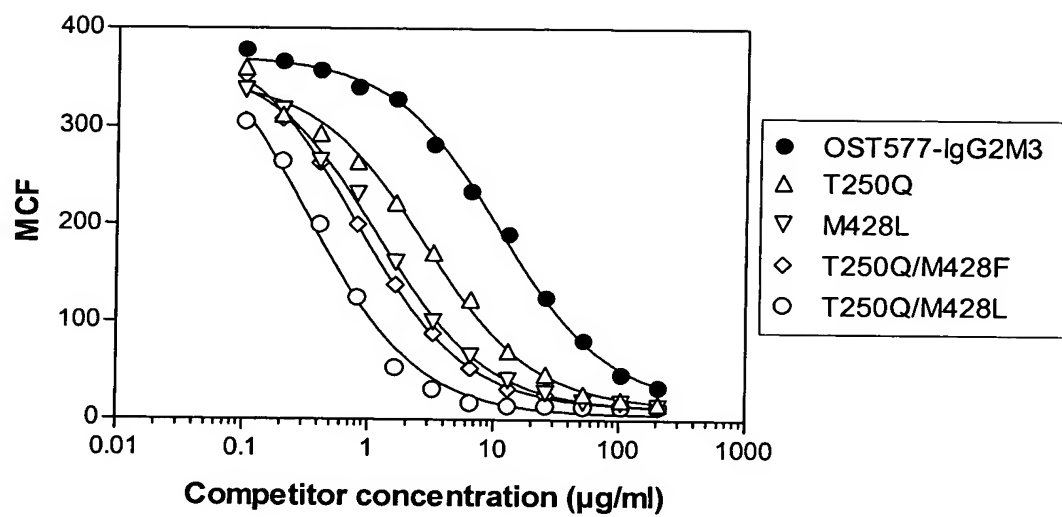


FIG. 12B

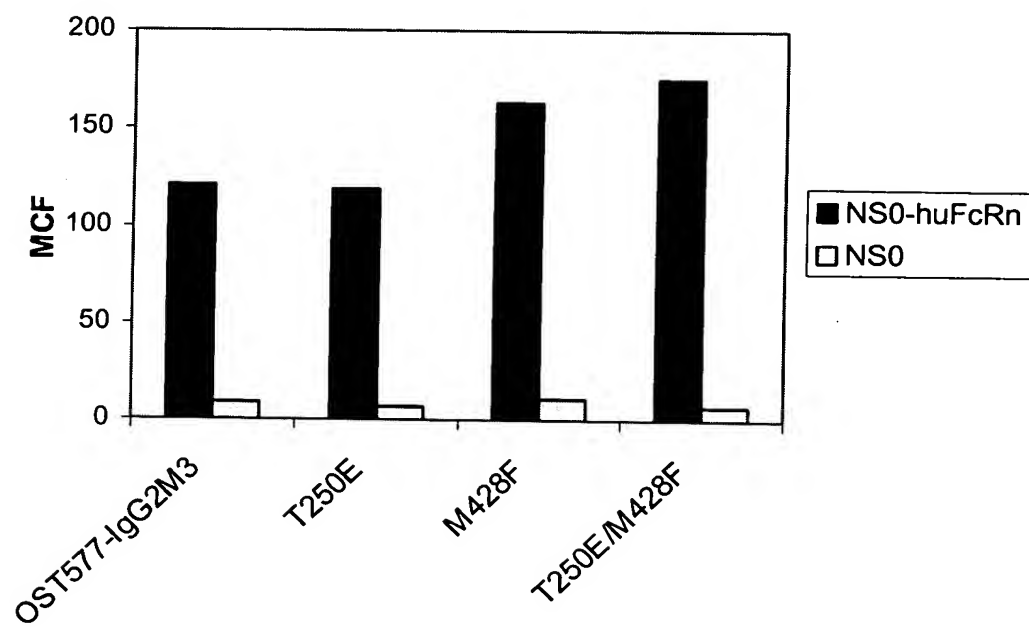


FIG. 13

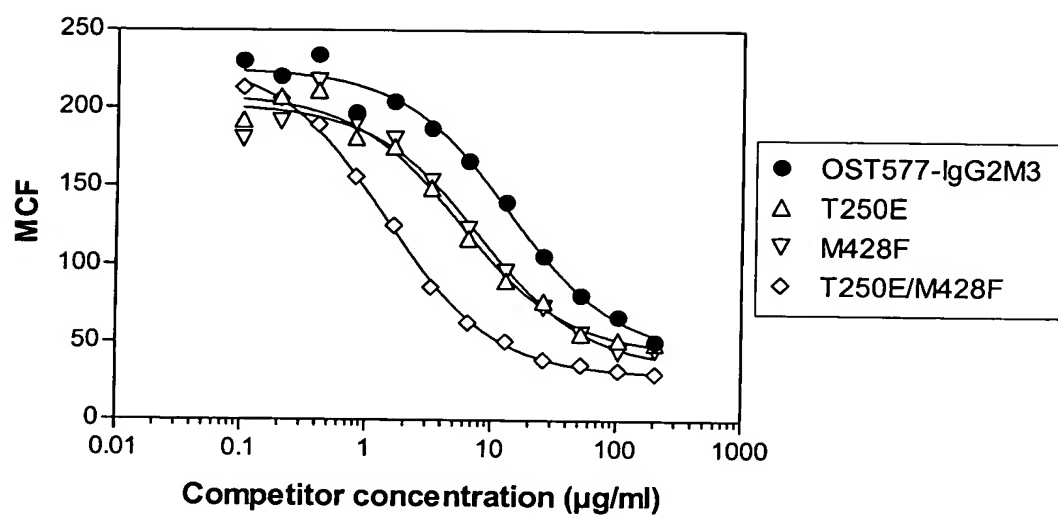


FIG. 14

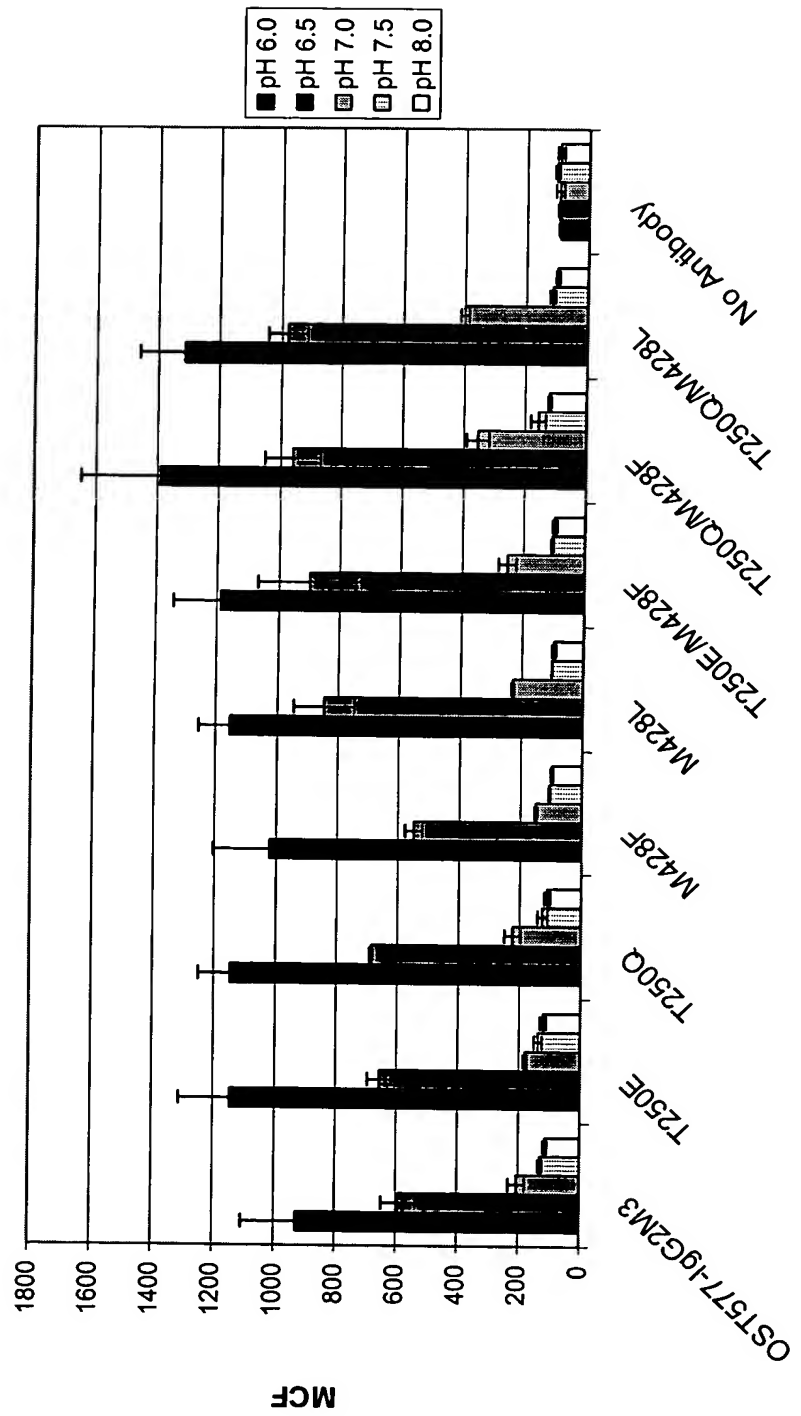


FIG. 15A

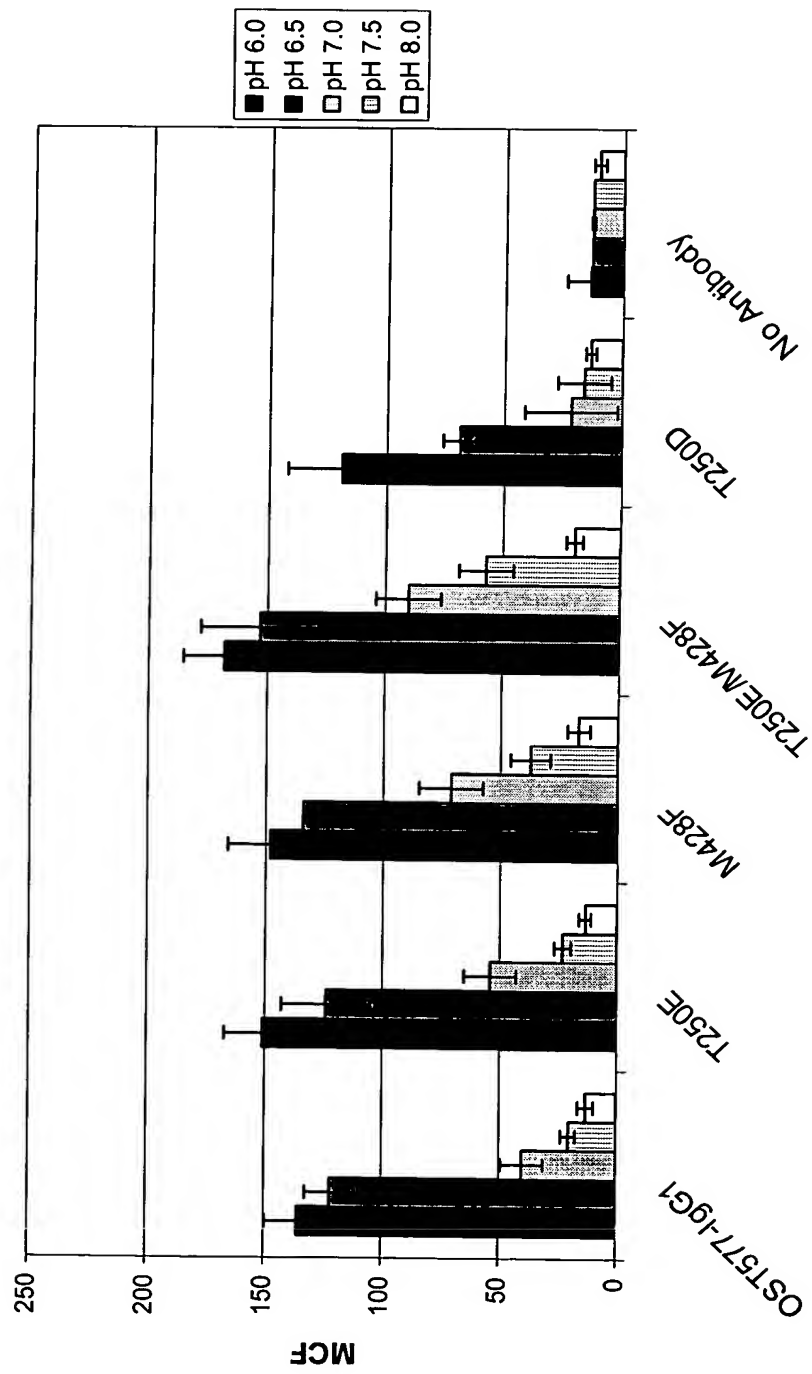


FIG. 15B

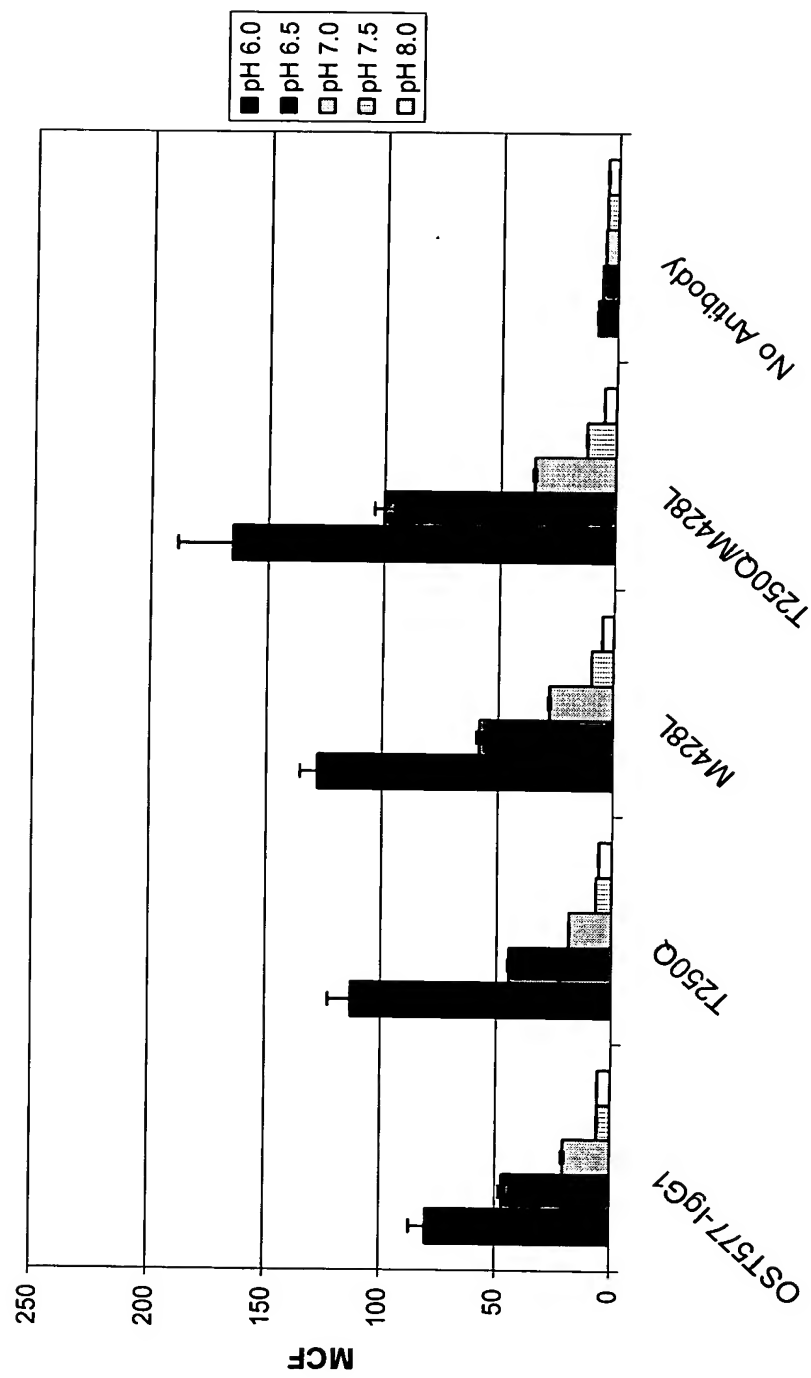


FIG. 15C

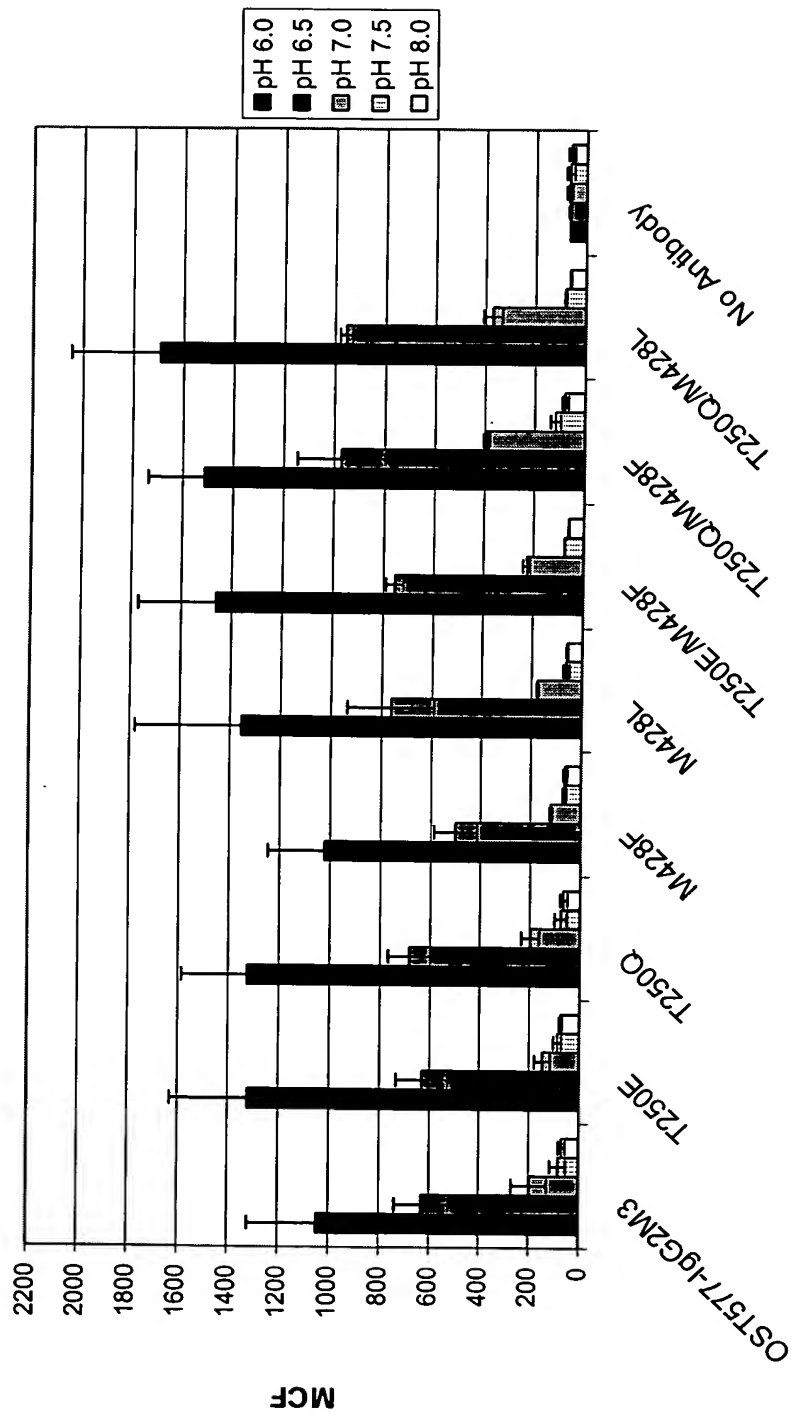


FIG. 15D

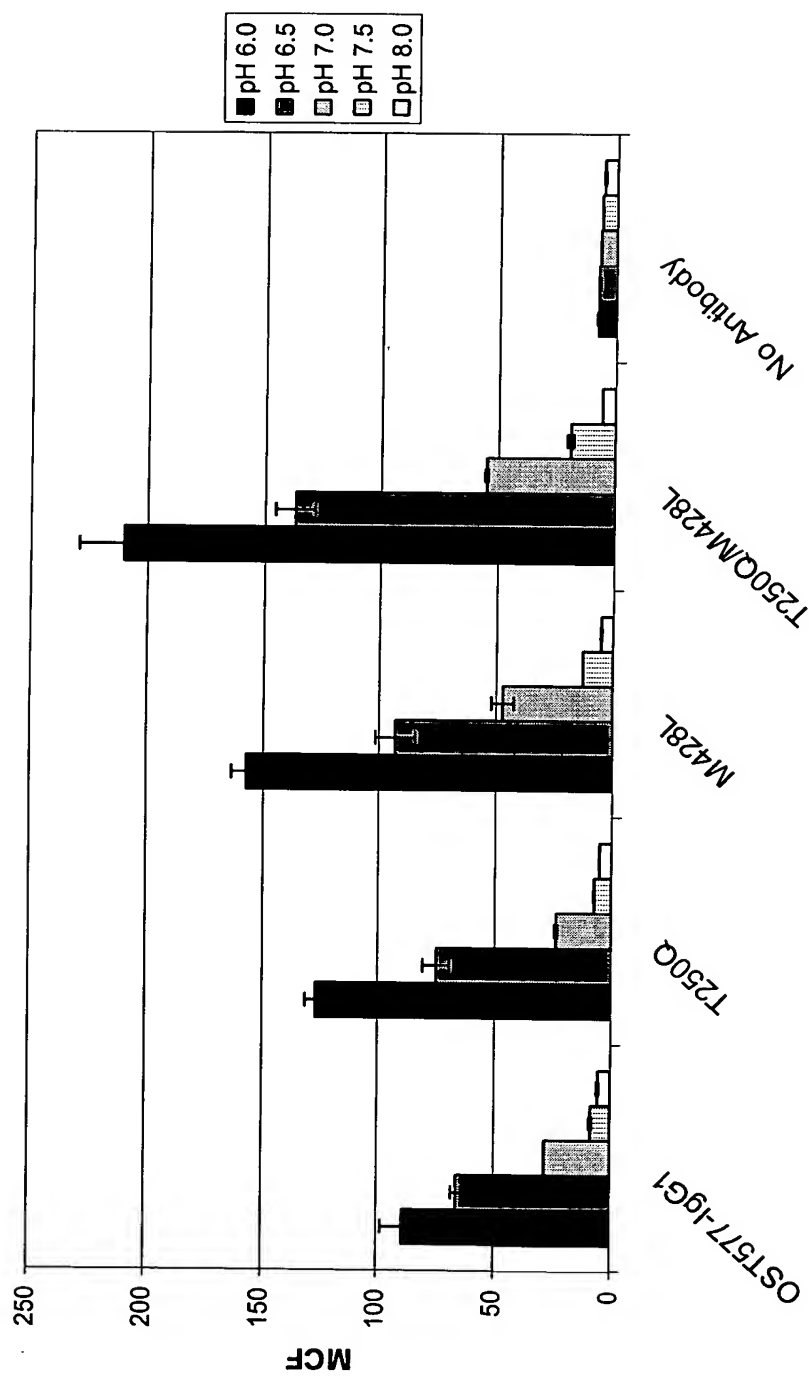


FIG. 15E

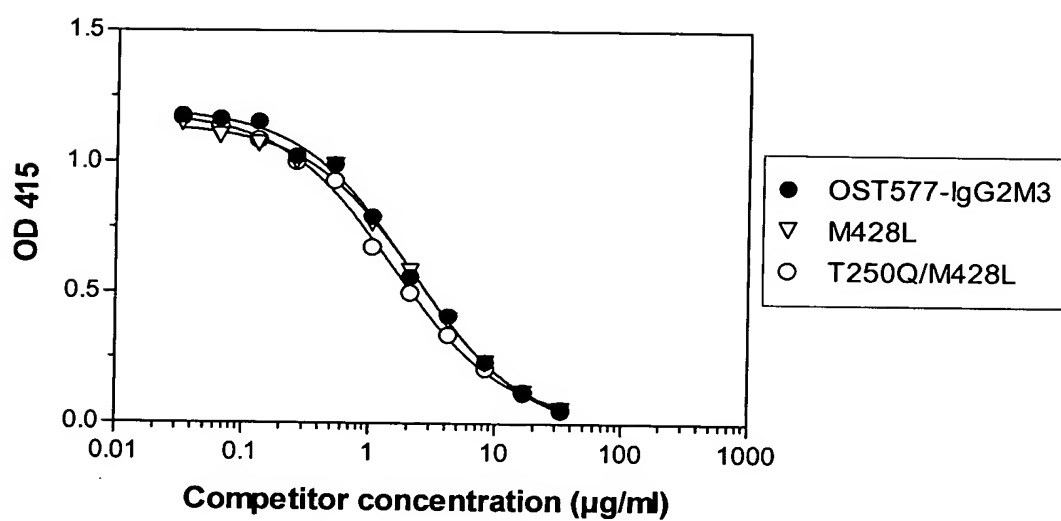


FIG. 16A

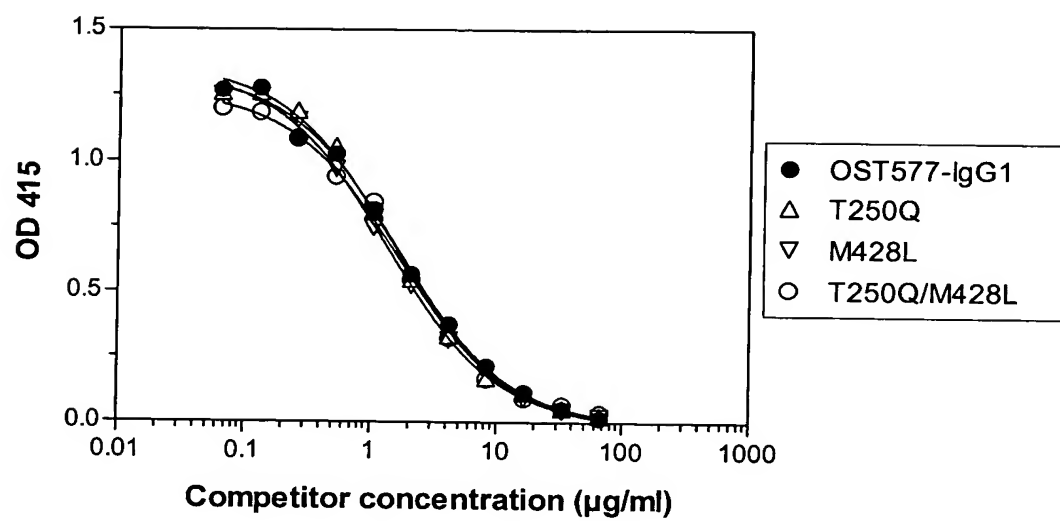


FIG. 16B

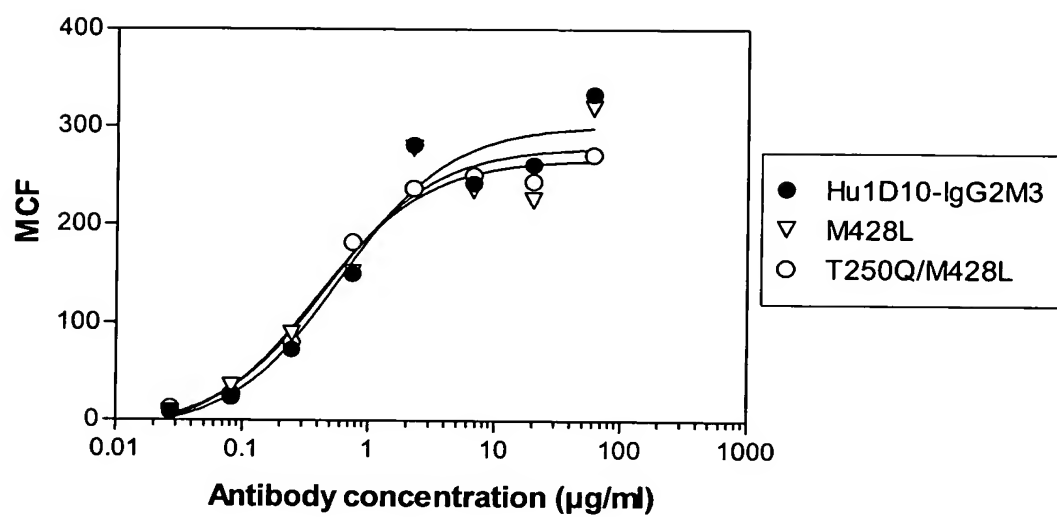


FIG. 17A

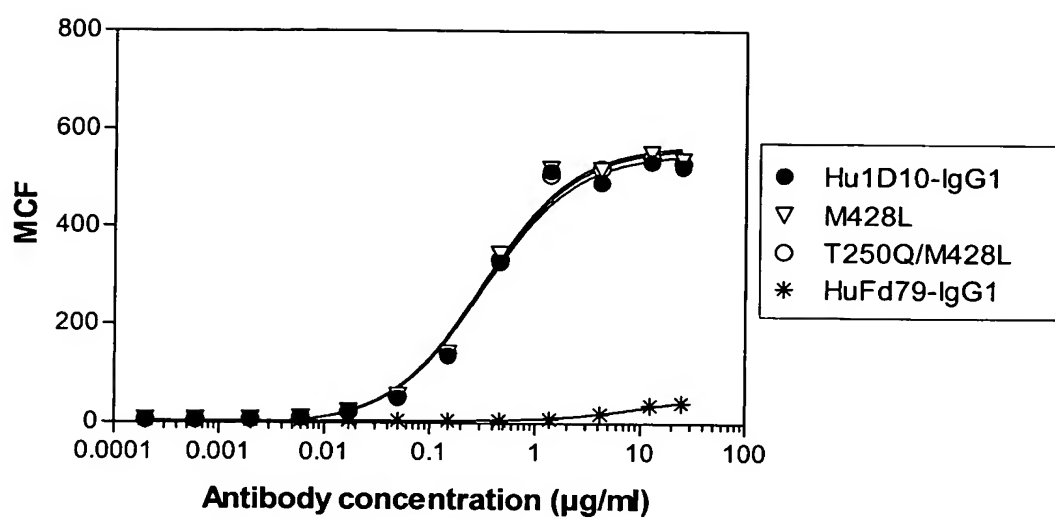


FIG. 17B

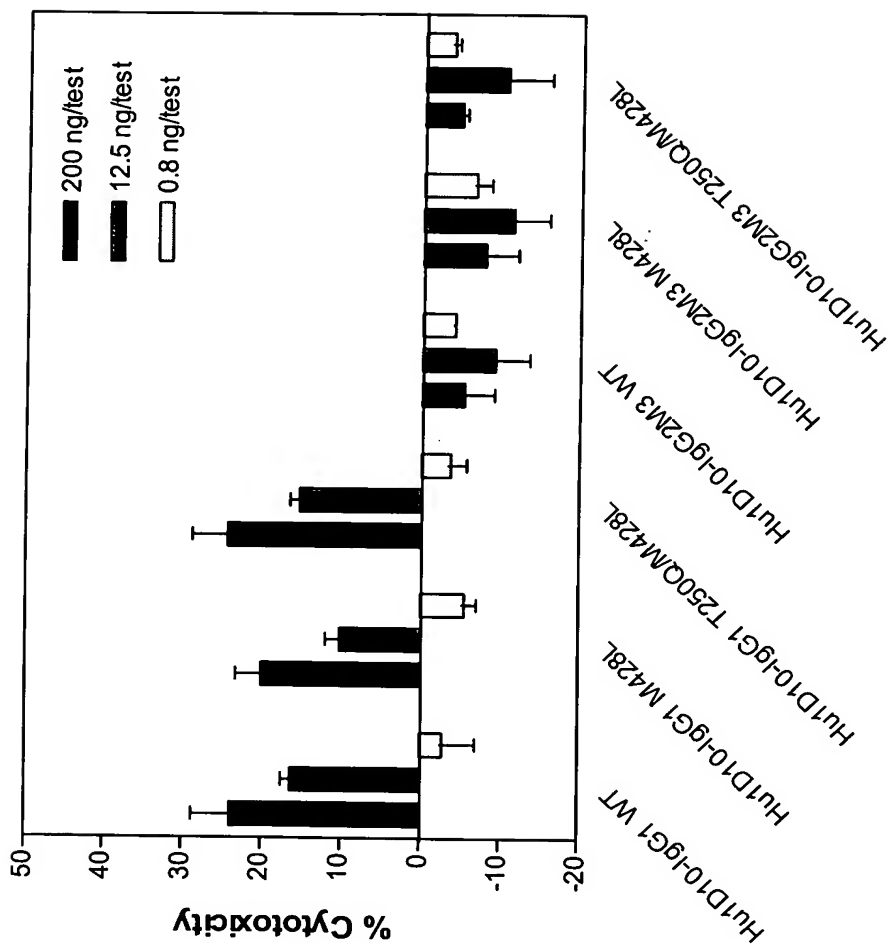


FIG. 18A

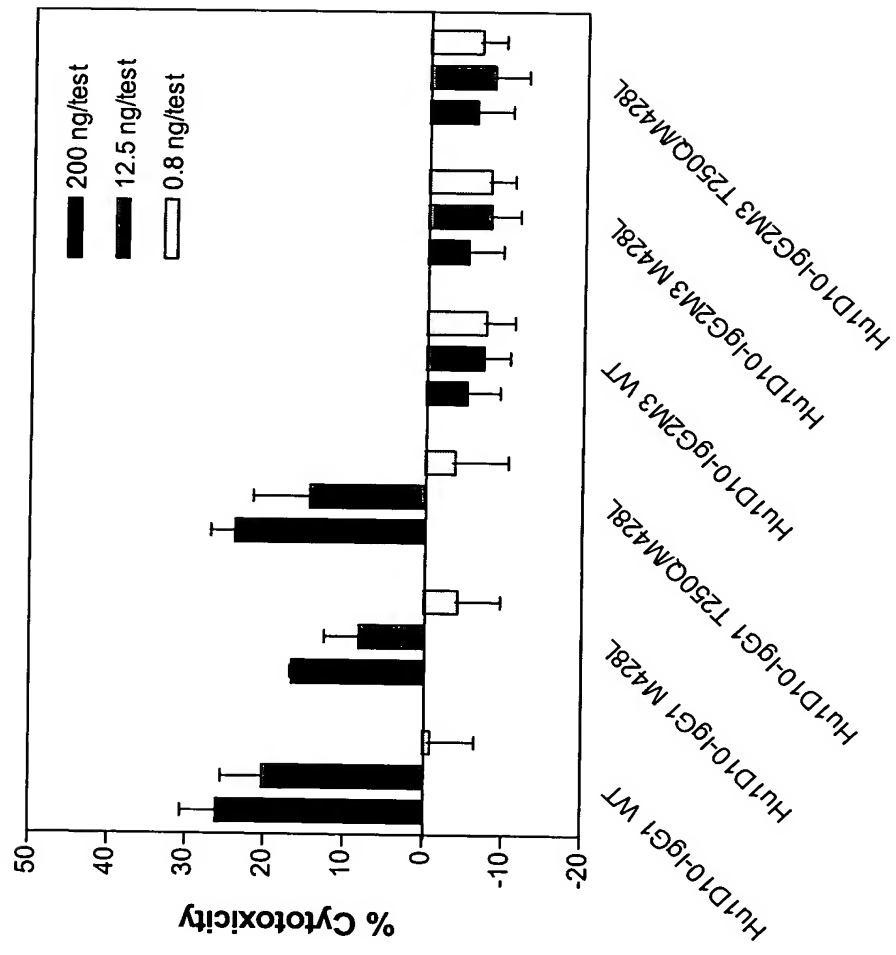


FIG. 18B

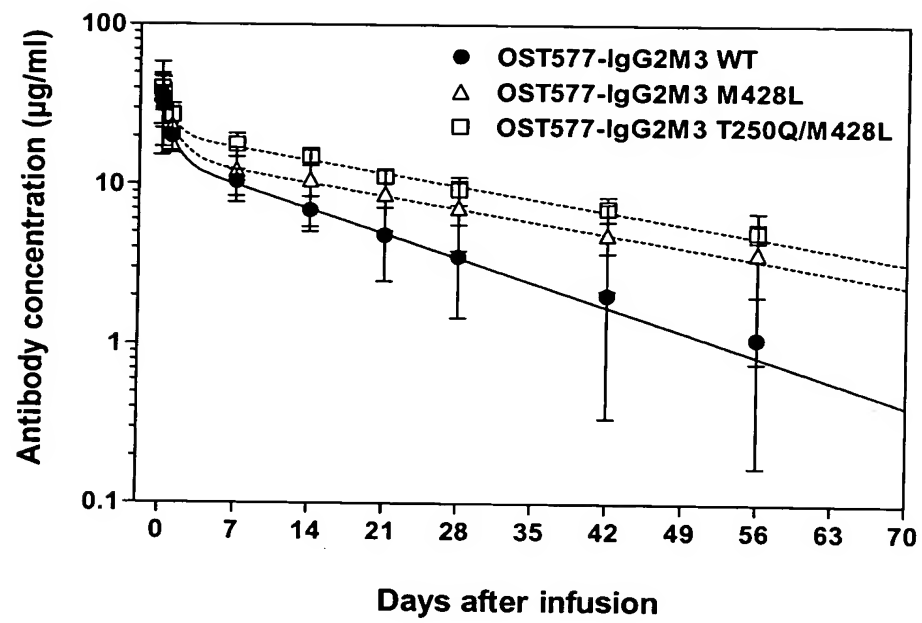


FIG. 19